

The Village Courier

 national accelerator laboratory

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CERN DISC COUNTER INSTALLED IN MESON AREA

Toward the end of 1973, a large shipment of equipment arrived at Meson Lab 6 in the NAL Village. Piles of soft packing material popped out of each box when several people, speaking in French, opened the precious cargo. Within a few hours they had begun to assemble the delicate mechanisms in the boxes and crates, and so began the visit to NAL of an interesting group with an interesting mission. Into the M6 beam line, as part of Experiment 96, these men installed a Cerenkov counter which, during the last week in February, began to identify particles for the experiment with great accuracy.

But their story began about two years ago at the CERN laboratory in Geneva, Switzerland. Their device -- a DISC Cerenkov counter -- was known to offer this precision counting by means of a unique combination of optics, mechanics, and electronics. At lower energies available at CERN and Serpukhov, this technique had performed most satisfactorily; there remained the question of how well it would perform at NAL energies.

A collaboration was set up between CERN and NAL to build the counter as part of NAL Experiment 96. The CERN team included Robert Meunier, a Saclay staff member working at CERN, who had successfully built several of these counters over the past ten years. John Litt, of the Daresbury Laboratory in England, working at CERN, also gave direction to the development. The technical support was provided by Michel Benot and six engineers and technicians from CERN's Nuclear Physics Division and the Data Handling Division. The group came to NAL for about one month to assemble, test and install the equipment.

John Litt, his wife, Gillian, and their children have lived at 22 Sauk in the NAL Village for the past four months. Their son, Michael, has attended school in West Chicago; the other two children, David and Joanna, have enjoyed the companionship of the NAL Playgroup. Other members of the international collaboration group have lived in Glen Ellyn.

The DISC counter contains special optics. A lens of sodium chloride, about 30 cm diameter, could not be made in the usual industrial channels. Dr. Meunier personally ground this delicate lens at CERN using a specially-constructed machine. The lens was then sandwiched between two lenses of fused silica and sealed in an invar barrel. Knowing the fragility of his product, Dr. Meunier hand carried the lens across the Atlantic Ocean.

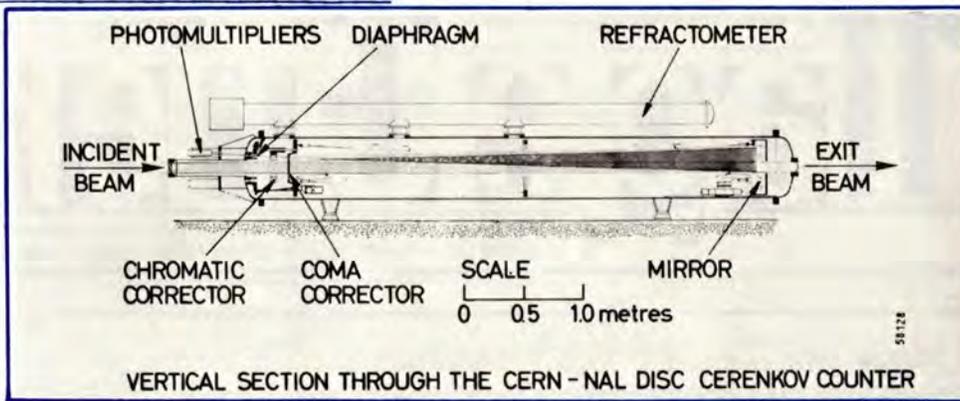
The counter functions in this way: Charged particles enter at one end and produce Cerenkov light as they pass through helium gas inside the 6m long counter. The light is reflected by a spherical mirror and passes through the special optics on its way toward a circular diaphragm. The light which passes through the annular aperture of the diaphragm is detected by eight



...CERN team completing installation of DISC counter (L-R) R. Meunier, J. Litt, A. Maurer, S. Ecklund (NAL), J. Anthonioz and J. Bertrand...



...John Litt leaves for school in West Chicago with son, Michael...



...(Left) Line drawing of internal structure of DISC counter and, (Right) the delicate optics of the counter...

high-quality photomultipliers and the results are recorded by the use of fast electronic circuits in an adjoining room.

Assembly of the counter was completed at NAL in January, and it was cautiously moved from the Village to the Meson Detector Building. By the end of February, most of the group had returned to Europe. Meunier and Litt now remain to oversee the first runs of the counter and to participate in Experiment 96. Meanwhile, they are giving instruction to NAL staff so that NAL personnel can operate the counter after they leave.

John Litt says of the first test: "It is clear that this instrument will be able to provide an unambiguous signal of any particle for which its pressure has been set. From the beam tests at NAL, one can expect the counter to separate pions and kaons at beam energies up to about 500 GeV/c, and with the energy doubler, pions and protons up to 1000 GeV/c. Thus it has many useful years ahead."

Robert Meunier says, "The extrapolation of this counter technique to NAL energies required an improvement by an order of magnitude as compared with earlier counters. It is gratifying that the tests already performed at NAL confirm that the improvement has been achieved and that the measured performances precisely match the design calculations. The DISC counter can therefore cover much of the need for charged particle identification at NAL."

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WORKSHOP AT NAL, MARCH 20

The Department of Local Government Affairs of the State of Illinois will present its Third Intergovernmental Workshop at NAL on Wednesday and Thursday, March 20 and 21. The meeting will convene at 1:30 p.m. on Wednesday with registration in the lobby of the Auditorium. Problems of inter-governmental relations will be discussed by state and local governmental representatives and topics such as, "Coping with Rapid Growth" in suburban areas.

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WANT TO KNOW MORE ABOUT NAL?

An Orientation session for new employees, and for old employees who are interested, will be held Monday, March 18, at 1:00 p.m., in the conference room on the first floor west of the Central Laboratory. The meeting includes an introduction by a member of the Director's Office staff, an explanation of the NAL EEO program, and a description of NAL employee benefits. A bus tour of the NAL site follows the meeting.

Everyone is welcome. Old employees should get permission from their supervisors. Call Helen Severance, Ext. 3351, to make your reservation.



...Ken Williams speaking at recent orientation session...

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IN MEMORIAM
WILLIAM A. OLACH

William A. Olach passed away at his home on Friday, March 8. A member of the staff of the Batavia Area Office of the U.S. Atomic Energy Commission at NAL since August, 1971, Mr. Olach had served as contract specialist and, since December, 1973, as Assistant to the Area Manager for Administration.



William A. Olach

Born in Chicago, Mr. Olach attended high school in Maywood and received his B. S. in Accounting from Loyola University. He had participated in other management training since joining the AEC in 1957 in the Supply and Services Division of the Chicago Operations Office.

Mr. Donald Bray, Batavia Area Office Manager of the AEC, expressed the feelings of Mr. Olach's colleagues by saying, "Bill will be greatly missed by all who worked with him. His loss to this office will leave a void that will be difficult to fill. Bill possessed a unique ability to identify potential problems and then to follow through with the solutions. The drive and determination demonstrated by Bill set a fast pace for his fellow workers."

Mr. Olach is survived by his widow, Lorraine, and their nine children. The oldest daughter, Judith (Mrs. David Jarvis), worked for a time at NAL in early 1972. Funeral services were held in Naperville on Tuesday, March 12, with burial in Queen of Heaven Cemetery, Hillside.

Memorials may be sent to Marilyn Bailey, Batavia Area Office, AEC.

ON THE MOVE...

Each week finds new groups moving into the NAL Central Laboratory. The Operations group headquarters can now be found on the Atrium Floor East. Their move signalled the beginning of several long-awaited relocations that will bring service groups into the Central Laboratory, now ready to assume its true role as the center of Laboratory life. The Operations group, responsible for arranging the schedule of experimental work to match accelerator operation, is vital in its service to NAL users.



...Members of the Operations group are: (left, bottom to top): C. Sazama, Jim MacLachlan, Dee Ray, Halsey Allen; (right, bottom to top): Tony Malensek, Brian Kramper, W. Light, Jim Liebau... (Absent is Bob Evans)



...Adjacent to Operations is the Communications Center: Switchboard operators (1) Diana Holmes, Louise Hanabarger...

ST. PAT'S DANCE

SATURDAY, MARCH 16 - 8:30 p.m. - VILLAGE BARN



Included in the evening's fun will be:

Dance Band, Cash Bar, Irish Eggs, Irish Shandygaff, Irish Bartenders, Sandwiches, Snacks and an Irish Sing-Along led by NAL's Paul J. Reardon, accompanied by the band. You'll know the words, - they'll be on the screen and they're all old favorites.

ADMISSION FREE

REMINDERS...Employees' Lecture Series, "The NAL Accelerator -- How it Works." On Friday, March 15, Will Hanson will speak on "Magnets." Video re-run will be given in the Cross Gallery Conference Room on Wednesday, March 20, at 12 noon.

...International Folk Dancing, Friday, March 15, 8 p.m. Village Barn.

...Happy Hour, 5:15 p.m., Wednesday, March 20, Village Barn.

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CLASSIFIED ADS

(Classified Ads to run in THE VILLAGE CRIER should be submitted in writing by Monday noon for publication the following Thursday. THE VILLAGE CRIER office is now located on the Atrium Floor West of the Central Laboratory. There is no charge for these ads.)

FOR SALE - '64 Dodge Dart, 6 cyl., A.T.; 2 snow tires on rims, good runner \$225. (C.B.Pallaver, Ext. 3355)
'65 Plymouth small 8, Satellite, A.T.; 4 snow tires, gd.runner, \$225.

FOR SALE - '63 Comet, 6 cyl., stick, 2 new tires, new starter and battery, it runs. First \$100 takes all. John B. Stoffel, Ext. 3355.

FOR RENT - 3-bedroom home w/large kitchen & fireplace in Warrenville. Lease preferred, occupancy April 15, \$300 a month, negotiable. Rene Donaldson, Ext. 3278.

FOR SALE - 1970 "Sears VIII" Tent Trailer. Sleeps 6 adults, has 2 storage benches, full size formica dng.table, plus attachable 8x10 add-a-room, spare & 2 new tires. \$750. Joe Volant, Ext. 3094.

FOR SALE - Twin Beds, incl. frames, padded headboards, boxsprings & mattresses. \$70 for the pair. Gus Rehbein, Ext. 3036 or 665-0958.

FOR SALE - 42" Gas Range, white, perf.cond. Center alum.grill, oven broiler, storage. Immaculate. \$55. Frank Mehring, Ext. 3782.

FOR SALE - Rek-o-kut Stereo turntable w/grado tone arm, shure cartridge, old but in gd.cond. \$30. Gerry Tool, Ext. 3453 or 896-6518.

FOR SALE - Wool rug w/pad, 12'x15', gold, \$170. E. Bleser, Ext. 3701.

FOR SALE - Alvarez 5023 Flat-top Guitar w/case, \$150; Gibson arch-top acoustic, model L-50, with case, \$200. Larry Robinson, Ext. 3355.

WANTED - - Acoustic Steel Guitar, National or Dobro. Larry Robinson, Ext. 3355.

WANTED - - Babysitter 2 or 3 afternoons a week for boy 2½ yrs. Prefer East Indian Trail area. Bill Bielefeldt, Ext. 3734 or 892-9781.

WANTED - - 67-69 Triumph, 650 cc. Ray Carra, Ext. 3370.

WANTED - - 10 to 20 h.p. Outboard Motor. Bill Beckley, Ext. 3428 or 892-6326.